

A Commitment to Caring When Preparing the Bedside Nurse: Evaluating Perceived Quality across University Academic and Clinical Learning Environments

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Abstract: A collaborative between a baccalaureate nursing program and a health system was established in a South Carolina community. A triple increase in undergraduate nursing enrollment had resulted in a need for additional clinical placements. A study on clinical placements was implemented using a prospective, quantitative design. Nursing students, supervising registered nurses, graduate teaching assistants or clinical faculty completed an instrument measuring the quality of clinical placements; 591 surveys were analyzed. Findings indicated that clinical placements were perceived as high quality. Key factors identified were support during clinical placement, competence and confidence, and welcome and belonging items. Graduates will serve the people of Appalachian South Carolina.

Keywords: student nurses; university; clinical learning environment collaboration; quality; caring

Need for Baccalaureate Nursing Graduates

One million additional registered nurses (RN) are needed by 2022 (U.S. Bureau of Labor Statistics, 2013). Strategically, and in response to future projected health-care needs, one recommendation from the Institute of Medicine was to increase the percentage of RNs with a bachelor's degree in nursing to 80% (Institute of Medicine, 2010). Forecasting models projected that 66% of RNs will achieve BSN education by 2025 (Spetz, 2018).

With a population of 5.088 million (South Carolina Population 2018 (Demographics, Maps, Graphs), 2018), South Carolina is 34% rural (South Carolina Revenue and Fiscal Affairs Office, 2018), and the 44th, worst ranked state in overall health status in the United States (United Health Foundation, 2018). Based on the estimated number of nurses required to meet health-care needs, South Carolina is predicted to have the fourth highest nursing shortage in the United States by 2030 (Wildeman, 2018).

In the United States, the "Future of Nursing Report" (Institute of Medicine, 2010), the Manatt report (Enders et al., 2016), and the American Association of Colleges of Nursing's (AACN's) vision for academic nursing (Pacini et al., 2019) recommended the benefits of academic and clinical learning environment partnerships. One of six summary recommendations in the Manatt report (Enders et al., 2016) was to build a pipeline of nurses. Progress has been reported in funded studies on innovative academic-clinical partnerships in nine states (Gerardi, 2013). Mutual partnership benefits have been described in four categories: empowered workforce, enhanced learning, shared resources, and translation of knowledge into practice (Sadeghnezhad et al., 2016).

Benefits of improved acute care outcomes have been associated with a bachelor's prepared RN workforce (Aiken et al., 2003; Blegen et al., 2013; Estabrooks et al., 2005; Friese et al., 2008; Kendall-Gallagher et al., 2011; Tourangeau et al., 2007; Van den Heede et al., 2009). The number of hospital nurses with baccalaureate degrees has been positively associated with reductions of in-hospital and 30-day mortality, failure to rescue (Aiken et al., 2003; Estabrooks et al., 2005; Friese et al., 2008; Tourangeau et al., 2007; Van den Heede et al., 2009), and lower odds of readmission and shorter lengths of stay (Yakusheva et al., 2014).

Recognition of the potential to transform medical and nursing care through innovative partnerships ignited a university school of nursing's and a large health-care system's desire to join collaboratively on behalf of the patients of Upstate Appalachian South Carolina. The focus was to increase the number of clinical placements in support of the education of baccalaureate nursing students and to increase the supply of regionally based nurses.

This academic-practice collaborative was established through an agreement that triples the number of BSN-prepared RNs. The collaborative agreement names the school of nursing as the health-care systems' preferred education affiliate, giving priority clinical placements to its collaborating university. The agreement thus contributed to the number of clinical placements.

The academic-clinical partnership demonstrated a commitment to caring for future RNs and for the community by preparing bedside nurses when attending a baccalaureate nursing program. Overall, increased undergraduate nursing enrollment will provide a greater number of

nurses to support the health needs and improve the health status of South Carolina's residents. It also hoped that a benefit of the collaborative is the increase in baccalaureate-prepared RNs that will elect to join the collaborating health-care system on graduation.

Leaders from both institutions set a goal to evaluate the quality of clinical experiences from the perspectives of nursing student learners in the clinical environment and to adjust after identifying areas for improvement. To evaluate the results of the academic-clinical partnership, a study was conducted to determine the quality of the clinical placements established for undergraduate students in the health care system. The purpose of the study was to assess the quality of the clinical learning environment from the perspectives of parties actively engaged in learning. The specific aim of the study was to measure a key quality metric: quality of the clinical learning environment from the perspectives of nursing students, supervising RNs, and graduate teaching assistants and clinical faculty (CFs). Investigators set the goal to measure the quality of the clinical learning environment from multiple and simultaneous perspectives.

The framework and theory for this research is the caring science (Watson, 2016) and its caritas (loving) processes. Caritas (loving) Process #7 is "Engaging in Genuine Teaching and Learning Experience Within the Context of the Caring Relationship" (Watson, 2008) The academic-practice collaborative sought to investigate the quality of the clinical learning environment and queried perceptions that were within the context of a caring relationship—support, confidence and competence, welcome and belonging.

This study may add to the knowledge of positive outcomes in support of academic and clinical learning partnerships. Assessing the quality of the clinical learning environment from multiple perspectives while engaging in a collaborative effort to increase bedside nursing workforce in Appalachian South Carolina could benefit many stakeholders.

Literature Review

It is reported that the impressions derived from experience of the clinical learning environment for the newly graduated nurse was a factor in culture shock and retention (Health Workforce Australia, 2013) and influenced the choice of first employment (Wareing et al., 2017). Measurements of the multiple perspectives of students, supervising RNs, and

graduate teaching assistants or CFs, coupled with reviewing findings and engaging clinical leadership teams, contributed to positive clinical learning experiences (Byrd et al., 1997; Courtney-Pratt et al., 2015). When examined, rankings have been found to be opposite depending on role, that is, preceptors ranking the ability to give and receive constructive criticism as most important; students rank receiving criticism as least important (Byrd et al., 1997).

Few studies examined the perspectives of students, supervising RNs, and CFs of the clinical learning environment (Ford et al., 2016). No published reports were in the United States that evaluated the quality of the clinical learning environment simultaneously and from multiple perspectives, student nurse, supervising RN, and CF.

Method

Design

A prospective, descriptive, quantitative research design was used to address the study aim. The quality of clinical learning environment was assessed from the perspectives of students, supervising RNs, and CFs utilizing the Quality Clinical Placement Evaluation (QCPE) (Courtney-Pratt et al., 2014) instrument, two distinct versions. The project launched in Spring 2019. Measurements were obtained once each semester for three semesters in April, July, and November.

The associate director for research (ADR) of the nursing program captured the multiple perspectives of the students at the university and the supervising RNs and CFs and in the clinical learning environment following practice experiences during the last three semesters of the students' nursing program.

Sample and Setting

The desired number of participants was set to obtain a representative student sampling of the 313 students in the junior 2, senior 1, and senior 2 cohorts in attendance during the study period. The desired target of 85% of students ($n = 276$, 88%) was obtained. The number of participants to obtain a representative supervising RN sampling of supervising RNs was 520 supervising RNs and 45 CF involved in the clinical learning environment in the academic-service partnership. The target of 60% of supervising RNs and 60% of CFs was achieved with ($n = 353$, 68%) and ($n = 31$, 69%) respectively.

Student cohort samples included traditional bachelor's degree, fall and spring semesters ($n = 89$), and accelerated bachelor's degree 12-month-year-round programs of study ($n = 187$). The RN sample worked in 25 nursing units used as clinical learning environments for patient care ($n = 274$) and practicum experiences (undergraduate students following nurse leaders; $n = 79$). Supervising RNs in the health systems' clinical settings were assigned at a maximum of 1 to 1 ratio and either worked alongside students in bedside care of patients or functioned as preceptors in roles other than the bedside. CFs ($n = 31$) were hired by the academic institution and were assigned at a 1 to 8 ratio for oversight of students. Students in the study cohort completed the course sequence for nursing at the end of May or during the fall semester of 2019, having enrolled in the nursing portion of their baccalaureate nursing degree over four semesters. Students studied at the new school of nursing building, located on the campus of the clinical learning sites.

Ethical Considerations

The study received institutional review board approval by the health system (project number Pro00086908) in advance of implementation. All participants were provided a written informed consent that was executed prior to participation in the study. No patients participated in the study. CFs were notified of the opportunity to participate in research via email. Envelopes with consent forms and surveys were provided to those wishing to participate. The instrument and consent form were returned in manila envelopes to prevent disclosure of participation.

Participants signed the consent forms and used the number on the consent as their ID code when completing the paper surveys. The ADR assured that ID codes alone were utilized on survey forms to protect identity of the participant when survey data was entered into statistical software for analysis. All signed consent forms will be kept for 3 years following the study. All participants received a \$5 incentive card at the completion of each survey from the ADR when research coinvestigators with no teaching nor supervising RN responsibilities, appropriately trained in research ethics, reviewed the contents of the manila envelopes. The incentive was issued by the ADR to protect anonymity and to reduce any faculty or healthcare facility leader bias related to participation or lack of participation in the survey.

Instrumentation

The validated Quality Clinical Placement Evaluation (QCPE) (Courtney-Pratt et al., 2014) instrument was selected to measure the quality of clinical placements from the perspectives of participating students, supervising RNs, and CFs. The QCPE (Courtney-Pratt et al., 2014) instrument was used successfully in a 3-year longitudinal study in Australia with a sample size of 932 supervising RNs and 1,121 nursing students (Ford et al., 2016). Instrument reliability was assessed using test-retest reliability process and by measuring the internal consistency reliability Cronbach's alpha coefficient was .95 for the student survey and .93 for the supervising RN survey (Courtney-Pratt et al., 2014).

QCPE (Courtney-Pratt et al., 2014) data were tested using exploratory factor analysis (EFA); three core themes related to supervising RNs' responses: factor 1 "*support to meet learning needs*," (Questions 4, 5, 7, 8, 9, 10, and 14), factor 2 "*competence and confidence*," (Questions 6, 7, 11, 12, 15, and 16) and factor 3 "*welcome and belonging*" (Questions 1, 2, 3, 11, 13, and 17). There were cross loadings for items 11 and 7. Eigenvalues were 7.70, 1.32, and 1.12 with the proportion of total variance 64.5, 11.1, and 9.4%.

For the students three subconcepts related to the student nurse responses, the following findings were reported: factor 1 "*RN support during placement*" (Questions 4, 5, 5, 7, 8, 9, 10, 11, 12, 13, 14, and 15), factor 2 "*CF support during placement*" (Questions 16, 17, 18, 19, 20, and 21), and factor 3 "*welcome and belonging*" (Questions 1, 2, and 3). Eigenvalues for the three factors were 11.39, 3.20, and 1.86 with the proportion of total variance 60.0, 16.9, and 9.8 respectively (Courtney-Pratt et al., 2014).

The supervising nurse survey, containing 17 items, was used for supervising RNs and CFs in this study. The student survey, containing 21 items, was used for BS in Nursing students. Item responses are made on a 5-point Likert scale from *strongly disagree* to *strongly agree*. An example of "*RN support to during placement*" for students was Q11: "This nurse actively looked for opportunities to optimize my learning." For supervising RNs/CF, Q14 reads: "I had an understanding of the student's learning needs." An example of item of *welcome and belonging* for students was Q3. "I felt accepted on the unit." For supervising RNs/CF, Q3 reads: "Students are accepted on the unit."

A brief demographic questionnaire was used to provide information on type of unit, the student's

semester of study in the undergraduate program, his or her role (student, CF, or supervising RN), age range, gender, years of RN experience, highest level of education in nursing, race, and ethnicity.

Data Collection

The ADR, employed by the academic institution with no teaching responsibilities in the baccalaureate nursing program, was the sole recruiting agent for the study. Students were recruited before or after completing a class examination while waiting for the class to reconvene to review the examination. The ADR explained the study to students in class, providing anonymity for participating respondents by leaving the room following the explanation. Three study coinvestigators, with no academic teaching nor supervisory responsibilities for the nursing unit staff and appropriately trained in research ethics, retrieved signed and unsigned consent forms returned in individual manila envelopes to protect disclosure regarding participation.

The recruitment plan for supervising RNs included all RN staff utilized in the students' clinical learning on nursing units used as clinical sites. For the supervising RNs, educators affiliated with the nursing units assisted the ADR by distributing study documents to supervising RNs who elected to participate in the study. Supervising RNs were approached during lunch breaks and advised to complete the survey on their own time, making them eligible for participant incentives and compliance with policies of the employing institution. Educators provided coverage for patients so supervising RNs could complete the survey lunch breaks.

Data Analysis

The specific aim of the study was to measure a concept, quality of the clinical environment as perceived by nursing students, supervising RNs, and CF. Data were imported into IBM SPSS Statistics (Version 27) predictive analytics software. Descriptive statistics were calculated on the demographic characteristics of RNs for role, age range, gender, years of RN experience, highest level of education in nursing, race, ethnicity, and mean item scores on the QCPE (Courtney-Pratt et al., 2014) using frequency distributions, means, standard deviations, and exploratory factor analysis.

Student demographic characteristics were analyzed for location of clinical site placement, student semester of study in the undergraduate program, age range, gender, race, and ethnicity. Cronbach's

alpha coefficient and exploratory factor analysis were analyzed for instrument responses administered to students and supervising RNs.

To examine concept of quality of the clinical environment, measured with responses to the QCPE for supervising RNs' (17 items) and students' (21 items) scales, EFA was calculated, with principal component analysis with Varimax with Kaiser normalization rotation method. EFA was conducted for the 21-item inventory for the students and 17-item inventory for the supervisors. Although many rotations (orthogonal, oblique, etc.) and extractions (e.g., principal axis factoring (PAF), principal components, etc.) were available and justifications for each was noted (Snook & Gorsuch, 1989; Velicer & Jackson, 1990), orthogonal rotation was used with principal components (PC) to assess the factorial solution for the study. However, given the assumption that the components are interrelated, oblique rotation was compared the stability of the factorial solution. When the various extractions (e.g., PAF) and rotations (e.g., oblimin) were performed the results were very similar to the PC and orthogonal rotation, hence the latter is reported in this study.

Although there are recommendations and guidelines as to item and/or factor retention (Stevens, 2009; Thompson, 2004), a more empirical/holistic approach was pursued given the pattern and strength of the communalities, factor loadings, and factor saturation (Fabrigar et al., 1999). After the EFA, Cronbach's alpha reliability testing, means, and standard deviations were reported for each of the obtained components for each of the groups (i.e., supervising RNs and students).

Results

A total of 660 participants (276 students, 353 supervision RNs, and 31 CFs) enrolled in the study. Of that number, 591 completed all questions of the QCPE survey. Sixty-nine students answered questions solely based on their clinical unit experience; however, they did not have the 1:1 practicum rotation to complete the section on the supervising RN (Questions 10–15). Participants of the targeted groups consisted of the following: 87.8% ($n = 276$) university students, 68.8% ($n = 31$) of university CFs, and 68.2% ($n = 353$) of supervising RNs from units used for clinical experience.

Mean item scores greater than 3 indicated a positive score. For students, the mean item score for the 21-item QCPE (Courtney-Pratt et al., 2014)

was 4.39 ($SD = .53$, $Min = 3.865$, $Max = 4.67$) (see Table 1). For supervising RNs, the mean item score for the 17-item QCPE (Courtney-Pratt et al., 2014) was 4.39 ($SD = 0.63$, $Min = 4.02$, $Max = 4.62$). For CFs, the mean item score for the 17-item QCPE (Courtney-Pratt et al., 2014) was 4.63 ($SD = 0.36$, $Min = 4.16$, $Max = 4.94$). Cronbach's alpha reliability scores were for students $\alpha = .93$, for supervising RNs $\alpha = .95$, and for CFs $\alpha = .90$, demonstrating good internal consistency.

Demographic data were reported for 660. Nine-five percent of student participants' ages ranged from 18 to 25 years, 63.7% of the supervising RNs, and 77.4 % of CFs were in the age range of 26 to 45 years. Most participants were female ($n = 620$, 92.4%). Among supervising RNs ($n = 206$), 58% reported 10 or fewer years of experience as a RN and 64.5% of CFs ($n = 20$) reported 10 years of experience. The highest education level in nursing was a BSN for 68.6% ($n = 242$) of supervising RNs and 64.5% ($n = 20$) of CFs. The predominant race for all groups was White with non-Hispanic ethnicity (see Table 2).

Most CFs (93.5%, $n = 29$) participated in clinical group rotations in 25 areas (e.g., medical, surgical, telemetry cardiovascular, neonatal ICU, OB family beginnings, Labor and Delivery, ICUs, pediatric, emergency, and psychiatric units). Supervising RNs participated in clinical group rotations where students supervised in a 1:8 ratio with CFs assigned to patient care ($n = 164$, 46.5%) and practicums where students are supervised in a 1:1 ratio with supervising RNs and assigned to the type of work performed by the supervising RN ($n = 154$, 43.6%) in 25 areas across three hospitals, including pediatrics.

Students were in last three semesters of their baccalaureate nursing program: Junior-2, 26.1% ($n = 72$), Senior-1, 46.7% ($n = 129$), and Senior-2, 27.2% ($n = 75$) with group experiences 73.2% ($n = 202$) and practicums with 1:1 interaction 26.8% ($n = 74$). Three cohorts of students were included: traditional RN—39.9% ($n = 110$), accelerated second degree—48.9% ($n = 135$), and accelerated-RN—11.2% ($n = 31$).

Kaiser-Meyer-Olkin (KMO) test of sampling adequacy was .94 and .90 and Bartlett's Test of sphericity $p < .001$ and $p < .001$ was computed for supervising RN and student instruments, respectively. Items for the scale completed by supervising RNs loaded on three factors and items for the scale used by students loaded on four factors. All item loadings retained for component interpretation were above .4. One item each for student the student instrument and supervising RN instrument demonstrated cross loading; no factor had fewer

than four items. EFA was not performed for the CFs due to low count of participants (i.e., $n = 31$).

In the supervising RN survey, factor 1 was *competence and confidence* (items 13, 14, 15, 16, 17), factor 2 was *welcome and belonging* (items 1, 2, 3, 8, 9, 10), factor 3 was *support to meet learning needs* (4, 5, 6, 7, 11, 12). Eigenvalues for the three (unrotated) factors were 9.72, 1.24, and 1.07 with the proportion of total variance for each unrotated component being: 57.16, 7.30, and 6.29 resulting in 70.75% explained variance for the full factorial solution. Item 10, "I actively looked for learning opportunities for the student," had similar loadings for factor 1 and 2 (.56 and .57 respectively). Cronbach's alpha was computed as .89, .91, and .91 for items loading on factor 1, 2, and 3.

In the student survey (see Tables 3 and 4) factor 1 and factor 2 loaded on items "support during clinical placement." Factor 1 represented (items 10, 11, 12, 13, 14, 15, or items that rated the supervising RNs solely), factor 2 represented (items 16, 17, 18, 19, 20, 21, or items that rated the CFs solely). Factor 3 represented *competence and confidence* (items 5, 6, 7, 8, 9); factor 4 represented *welcome and belonging* (items 1, 2, 3, 4). Eigenvalues for the four factors were 8.83, 4.27, 3.16, and 1.18, with the proportion of total variance for each unrotated component being: 42.05, 20.34, 15.05, and 5.61, with 83.06% explained for the full factorial solution. Item 4, "My prior experience was acknowledged during learning opportunities," had similar loadings for factor 3 and 4 (.54 and .58 respectively). Cronbach's alpha was computed as .97, .96, .91, and .87 for items loading on factor 1, 2, 3, and 4 respectively (see Table 4).

Discussion

Findings indicated a consistently high level of perceived quality of clinical learning environments from the perspectives of students, supervising RNs, and CFs. The instrument used to measure the concept of quality of the clinical learning environment, using the QCPE (Courtney-Pratt et al., 2014), has established reliability and validity, including factor analysis.

The EFA solution is a relatively impressive one, that >70% (being 83% for students and 71% for RNs) for the full solution. Results are comparable to solutions of those of Courtney-Pratt (Courtney-Pratt et al., 2014) of 86.5% and 85% for students and nurses respectively. For the student results, this study's factor solutions aligned closely with those of Courtney-Pratt (Courtney-Pratt et al.,

TABLE 1. Item Mean Responses on the Quality Clinical Placement Evaluation (QCPE) Surveys

Student survey (S) (<i>n</i> = 207)	<i>M</i> (<i>SD</i>)			
Q1—I was welcomed to the unit.	4.3	(0.85)		
Q2—I was introduced to staff and patients.	4.4	(0.81)		
Q3—I felt accepted on the unit.	4.2	(0.92)		
Q4—My prior experience was acknowledged during learning opportunities.	4.2	(0.93)		
Q5—I accomplished my learning objectives during this practice experience.	4.2	(0.94)		
Q6—I was encouraged to be an active learner.	4.4	(0.91)		
Q7—The staff had an understanding of my learning needs.	3.9	(1.16)		
Q8—I am more confident about my nursing practice.	4.3	(0.89)		
Q9—I am more competent in practice.	4.4	(0.91)		
Q10—The nurse assisted me to make decisions about my learning objectives and needs.	4.4	(1.15)		
Q11—The nurse actively looked for opportunities to maximize my learning.	4.44	(1.16)		
Q12—When asked, this nurse assessed my skills effectively.	4.5	(1.05)		
Q13—I received constructive feedback from this nurse.	4.5	(1.13)		
Q14—This nurse had an understanding of my learning.	4.4	(1.21)		
Q15—I felt positive about working with this nurse.	4.6	(1.00)		
Q16—My clinical faculty assisted me to make decisions about my learning objectives and needs.	4.4	(0.92)		
Q17—My clinical faculty actively looked for opportunities to optimize my learning.	4.4	(0.99)		
Q18—When asked, my clinical faculty assessed my skills effectively.	4.5	(0.89)		
Q19—I received constructive feedback from my clinical faculty.	4.5	(0.94)		
Q20—My clinical faculty had an understanding of the needs of my learning.	4.6	(0.84)		
Q21—I felt positive about working with my clinical faculty.	4.7	(0.69)		
RN and CF (<i>n</i> = 353)	RN <i>M</i> (<i>SD</i>)	CF <i>M</i> (<i>SD</i>)		
Q1—Students were welcomed to the unit.	4.6	(0.66)	4.3	(0.75)
Q2—The students were introduced to staff and patients.	4.6	(0.71)	4.3	(0.79)
Q3—Students were accepted on the unit.	4.5	(0.71)	4.2	(0.70)
Q4—The students' prior experience was acknowledged to more effectively structure teaching and learning opportunities.	4.1	(0.88)	4.2	(1.0)
Q5—The students were assisted to make decisions about learning objectives and needs.	4.3	(0.80)	4.4	(0.80)
Q6—After this experience, the students accomplished their learning objectives.	4.1	(0.81)	4.5	(0.72)
Q7—The students were encouraged to be active learners.	4.5	(0.71)	4.6	(0.55)
Q8—I supported the students to develop their competence in practice.	4.6	(0.65)	4.8	(0.50)
Q9—I assisted the student in finding strategies to meet his/her learning objectives and needs.	4.5	(0.73)	4.7	(0.53)
Q10—I actively looked for learning opportunities for the student.	4.6	(0.67)	4.8	(0.45)
Q11—I had an understanding of the student's learning needs.	4.2	(0.91)	4.7	(0.45)
Q12—Working with the student supported the development of my knowledge of the undergraduate curriculum.	4.0	(0.98)	4.7	(0.45)
Q13—When asked, I felt confident assessing the students' skills.	4.4	(0.79)	4.9	(0.34)
Q14—I provided constructive feedback to the student.	4.4	(0.72)	4.8	(0.43)
Q15—Having the opportunity to support students has contributed to my professional development.	4.3	(0.86)	4.9	(0.30)
Q16—I felt positive about working with students.	4.4	(0.84)	4.9	(0.25)
Q17—I am confident in my role supporting students.	4.5	(0.72)	4.9	(0.30)

Note. CF = clinical faculty; RN = registered nurse.

TABLE 2. Participant Characteristics

Characteristic	Students	Supervising RN	Clinical Faculty
	<i>n</i> = 276 <i>n</i> (%)	<i>n</i> = 353 <i>n</i> (%)	<i>n</i> = 31 <i>n</i> (%)
Gender			
Female	269 (97.5)	323 (91.5)	28 (90.3)
Male	6 (2.2)	26 (7.4)	3 (9.7)
Bigender		1 (0.3)	
Prefer not to answer	1 (0.004)	3 (0.8)	
Age			
18–25	263 (95.3)	33 (9.3)	2 (6.5)
26–45	13 (4.7)	225 (63.7)	24 (77.4)
46+		93 (26.3)	5 (16.1)
Prefer not to answer		2 (0.6)	
Years as a RN			
10 or fewer		206 (58.4)	20 (64.5)
Highest level nursing education			
Associate Degree/Diploma		75 (21.2)	
Bachelor's Degree		242 (68.6)	20 (64.5)
Master's Degree or higher		33 (9.4)	11 (35.5)
Prefer not to answer		3 (0.9)	
Race and Ethnicity			
Black/African American	6 (2.2)	24 (6.8)	2 (6.5)
White	260 (94.2)	319 (90.4)	28 (90.3)
Native American		1 (0.3)	
Asian	7 (2.5)	6 (1.7)	
Hawaiian/Pacific Islander		1 (0.3)	
No answer/other	3 (1.1)	2 (0.6)	1 (3.2)
Hispanic or Latino	8 (2.9)	14 (0.4)	1 (3.2)
Not Hispanic or Latino	266 (96.4)	335 (94.9)	28 (90.3)
Prefer not to answer	2 (0.7)	4 (1.1)	2 (6.5)

2014), with the exception that *support during clinical placement* was loaded onto 2 factors (factors 1 and 2) in this study, rather than on one factor in the Courtney-Pratt study (Courtney-Pratt et al., 2014). This study's RN survey results similarly loaded on 3 factors as did the RN results for Courtney-Pratt (Courtney-Pratt et al., 2014). RN survey item loading similarly between this study and the item loading for Courtney-Pratt (Courtney-Pratt et al., 2014) included: *support to meet learning needs*—Q4, 6, and 7, *competence and confidence*—Q15 and 16, and *welcome and belonging*—Q 1, 2, 3.

Though each of the items address acknowledgement of prior experience, students respond from their experiential vantage point, whereas the supervisor RN addresses structure from a pedagogical perspective. Item Student Q4 maps to *Welcome and belonging* and Item RN Q4 maps to

support to meet learning needs. Items may not necessarily be interpreted the same across the two groups given difference in wording.

Three items of the QCPE (Courtney-Pratt et al., 2014) in the welcome and belonging theme, Q1-I *was welcomed to the unit/Students are welcomed to the unit*, Q2-I *was introduced to staff and patients/Students are introduced to staff and patients*, and Q3-I *felt accepted on the unit/Students were accepted on the unit* are examples of items that collaborating leaders can track in their commitment to learning experiences within the context of a caring relationship when preparing bedside nurses. This study generated data that can be used as a baseline on which future assessments can be tracked.

During evaluation of the study results, investigators highlighted the importance of adding the concept of dose to each demographic survey for

TABLE 3. EFA with Rotated Loadings

Item Students	Factor 1: RN support during placement	Factor 2: CF support during placement	Factor 3: Competence and confidence	Factor 4: Welcome and belonging
Q10	.912	.082	.207	.128
Q11	.906	.063	.186	.112
Q12	.897	.178	.075	.131
Q13	.911	.136	.143	.097
Q14	.926	.086	.183	.149
Q15	.930	.005	.168	.113
Q16	.091	.856	.171	.140
Q17	.112	.909	.080	.023
Q 8	.072	.926	.111	.033
Q19	.063	.937	.032	.009
Q20	.066	.919	.056	.076
Q21	.100	.853	.086	.113
Q5	.198	.129	.792	.304
Q6	.223	.110	.725	.335
Q7	.267	.063	.619	.536
Q8	.184	.134	.897	.172
Q9	.131	.117	.916	.168
Q1	.120	.045	.312	.844
Q2	.113	.045	.312	.844
Q3	.205	.027	.386	.793
Q4	.188	.085	.540	.580
Item RN/CF		Factor 3: Support to meet learning needs	Factor 1: Competence and confidence	Factor 2: Welcome and belonging
Q1		.210	.289	.794
Q2		.297	.151	.767
Q3		.262	.309	.763
Q8		.307	.514	.609
Q9		.420	.406	.508
Q10		.152	.565	.573
Q4		.763	.014	.380
Q5		.756	.284	.277
Q6		.813	.292	.224
Q7		.480	.412	.453
Q11		.678	.437	.203
Q12		.624	.504	.113
Q13		.382	.615	.378
Q14		.280	.653	.436
Q15		.328	.779	.166
Q16		.259	.805	.247
Q17		.158	.766	.358

Note. CF = clinical faculty; RN = registered nurse.

the supervising RN instrument. Better quantification, (i.e., the amount of time the supervising RN spends working with the RN student) could support improved understanding when addressing areas for improvement.

A systematic evaluation model (Stufflebeam & Shinkfield, 1985), with concepts of context, input, process and product evaluation, was used in team discussions when evaluating the results of the study. The team was cognizant of the need to

TABLE 4. Key Factors

Factors	Student Items	<i>M (SD)</i>	Cronbach's alpha	RN/CF items	<i>M (SD)</i>	Cronbach's alpha
RN support during clinical placement	Q 10, 11, 12, 13, 14, 15	4.47 (1.05)	.97			
CF support during clinical placement	Q 16, 17, 18, 19, 20, 21	4.47 (0.83)	.96			
Support to meet learning needs				Q 4, 5, 6, 7, 11, 12	4.23 (0.68)	.89
Competence and confidence	Q 5, 6, 7, 8, 9	4.26 (0.80)	.91	Q 13, 14, 15, 16, 17	4.44 (0.66)	.91
Welcome and belonging	Q 1, 2, 3, 4	4.20 (0.80)	.87	Q1, 2, 3, 8, 9, 10	4.54 (0.56)	.91

Note. CF = clinical faculty; RN = registered nurse.

report any environmental changes (e.g., changes in leadership, large raises, supervising RN assignments) and to analyze for effects of unintended changes on outcomes of the study that were not intended.

During the year of the research study, the targeted clinical learning site or hospital system merged with another hospital system and the nurses received an unexpected pay raise. Similarly, during the time in which the initial surveys of nurses who supervised school of nursing rotational students in the medical, surgical, and telemetry units of the health system were conducted, an unpredicted change in the hospital unit structure occurred. To meet the needs of the growing population in the region, the medical renal unit of the hospital was converted to a neuroscience unit. An additional medical-surgical unit was also opened to accommodate the shifting of the medical renal patient population. During the transition, nurses, who normally would have supervised the collaborating institution's students, were unavailable as they were being relocated and undergoing training courses to meet the needs of the neurological patient population.

Further, the collaborating educational institution expanded the undergraduate nursing program and constructed a new and unfamiliar nursing building on the clinical learning campus. The strategic decision to build was undertaken to bolster the shortage of nursing-related, patient-centered research, and health innovations. Students were reluctant to use the clinical learning site and new nursing building despite being under the guidance of the university faculty. In addition, student participants in this study were considered *trailblazers* as they represented the first group of

nursing students in an accelerated nursing program that scheduled courses over the summer.

This study had a number of strengths and limitations. An important facet of this proposed research study was its use of a prospective rather than retrospective design. Reports of quality indicators were immediately available to the leaders of the academic and clinical learning site partnership. Immediate feedback facilitated improvements in research and educational strategies that benefit clinical practice:

- Positive student perceptions documented by the study changed the direction in one research grant submission about the reluctance of new graduate nurses in selecting medical surgical units as their first choice of employment. The prior research strategy was altered to include asking students why they were not choosing medical surgical rather than assuming it was because of negative perceptions that may have resulted from their medical-surgical clinical learning experiences.
- Comfortable collegiality that resulted in this study's collaborative research has resulted in expanding a plan for educational research across collaborating institutions. Nursing faculty and students in the senior year critical care nursing course were invited to participate in educational research on a new delirium assessment instrument for critical care. If successful, this educational design may be added to the undergraduate curriculum thus potentially shortening orientation time and eliminating duplication of competency skills checkoffs for prospective new hires.

Similar reports of improvements to clinical practice and generation of clinical research have been reported by other academic-service partnerships (Gullatte & Corwin, 2018).

Findings are limited in their generalizability, although they serve as encouragement for other collaborating organizations to conduct similar research. Clinical learning environments are rarely studied (Ford et al., 2016). Due to the homogeneity of the race and ethnicity of the sample and that most of the supervising RNs (58.4%) had 10 years' experience or fewer, caution should be exercised in generalizing to populations where greater heterogeneity and/or supervising RN experience exists. A convenience sample was utilized as researchers investigated a key quality metric of an academic-clinical learning site collaboration as both institutions worked together to expand the number of bedside nursing staff available to care for the residents of Upstate, Appalachian-designated South Carolina. They set an overall research goal to investigate key metrics related to the outcomes of the partnership during the first crucial years as students began their Junior-1 semester in Fall of 2018.

This study added to evidence-based knowledge of what occurs when institutions collaborate to focus on making the student experience a quality one within the context of a caring relationship—support, confidence and competence, welcome and belonging. For future initiatives, institutions can track the results of initiatives that increase the emphasis on caring relationships by utilizing the responses on the QCPE measurement as a guide (e.g., Question 1, 2, and 3, on welcoming, introduced, and accepted). The findings of this study indicated that much is to be accomplished in addressing a lack of shared knowledge between students and supervising RNs about learning needs of the curriculum. Students' clinical learning environment is important in recruiting bedside nurses (Wareing et al., 2017).

This research followed the guidance of national leaders who shared documents, such as the Manatt report (Pacini et al., 2019), that encourage collaborations. As a result, our collaborating institutions were rewarded with mean scores reflecting positive perceptions of quality in the clinical learning environment from the perspectives of students, supervising RNs, and CFs. One can be reassured that, with successful collaborative experiences, the quality of the clinical learning environment for nursing students of the future will be enhanced in bedside nursing care. We are hopeful that the

improved quality of clinical learning environments will accelerate workforce development strategies and reduce bedside nursing vacancies.

Given that the "Future of Nursing Report" (Institute of Medicine, 2010), the Manatt report (Enders et al., 2016), and American Association of Colleges of Nursing's (AACN's) vision for academic nursing (Pacini et al., 2019) recommended the development of academic and clinical learning partnerships, findings from this study demonstrate that collaborations between university academic and clinical learning environment organizations can be an effective strategy to yield positive outcomes for both partners.

Improved acute care patient outcomes have been significantly associated with baccalaureate-prepared nurses (Aiken et al., 2003; Blegen et al., 2013; Estabrooks et al., 2005; Friese et al., 2008; Kendall-Gallagher et al., 2011; Tourangeau et al., 2007; Van den Heede et al., 2009). Our next steps in taking a leadership role to shape our U.S. health-care system include increased collaborations between our organizations and increased collaborations between nursing students, supervising RNs, and clinical faculty.

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